DRAFT ENVIRONMENTAL ASSESSMENT

U.S. FISH AND WILDLIFE SERVICE
PROPOSED VISITOR EDUCATION CENTER
OTTAWA NATIONAL WILDLIFE REFUGE
OAK HARBOR, OHIO

In compliance with the National Environmental Policy Act of 1969

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For
Visitor Education Center
Ottawa National Wildlife Refuge Complex

1. Purpose and Need

1.1. Purpose

The purpose of this Environmental Assessment (EA) is to consider alternatives for the construction and site location selection of a Refuge Visitor Education Center (VEC) that would provide facilities to meet the visitor outreach and environmental education needs of the U.S. Fish and Wildlife Service (Service) in supporting public use on the Ottawa National Wildlife Refuge (NWR).

1.2. Need

The need to provide the proper facilities for public use services far exceeds the capability of the existing refuge headquarters. Services are provided by the refuge to nearly 120,000 people annually. However, models show the Refuge could provide services for up to 250,000 people if public use facilities were expanded. To date, the refuge has 7 miles of hiking trails and a visitor parking lot. There is no classroom space for environmental education and interpretive space is limited to a few display racks of brochures in the office.

Construction of a VEC is the most important strategy identified to the meet the People Goals and Objectives identified in the Ottawa NWR Complex Comprehensive Conservation Plan (CCP). The VEC was also ranked as the number 1 priority in the Refuge Operations Needs System (RONS) ranking developed for the CCP. The new VEC includes an exhibit room, a book store, object theater room, a large multipurpose classroom and meeting room, observation tower, and office space. New walking trails, kiosks, and observation platforms will greatly enhance wildlife viewing and education opportunities.

These current and future Refuge visitor services and environmental education needs were considered in identifying space requirements. The space requirement for a new VEC would be approximately 12,144 square feet, inclusive of future office space for Refuge staff. To be less intrusive on the landscape, a two story structure for the VEC was determined more desirable. Parking space to accommodate 60-75 visitor car spaces, 18 Service spaces, 3 tour buses, and 10-15 RV spaces will be needed. An overflow parking area consisting of grass surface with soil reinforcement underneath would provide for additional parking during special events where visitation reaches up to 3,600 visitors a day.

Criteria used to select a construction location include the following: land held in fee title by the Service, no title deed restrictions limiting proposed activities, proximity to

existing public use areas, proximity to public roads, proximity to public utilities (electric, phone, water), amount of upland habitat available at site, minimize amount of wetland fill required, minimize destruction and fragmentation of existing native habitats, and avoid any impacts to Federally Threatened or Endangered species.

1.3. Decisions that Need to be Made

The Service's Regional Director will select one of the alternatives analyzed in detail and will determine, based on the facts and recommendations contained herein, whether this Environmental Assessment is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether an Environmental Impact Statement (EIS) will need to be prepared.

1.4. Background

The Ottawa NWR Complex is comprised of nearly 9,000 acres. This includes Ottawa division, Darby division, Navarre division, Cedar Point NWR, and West Sister Island NWR (Figure 1). Ottawa NWR was established in 1961 to preserve a remnant of the formerly vast Lake Erie coastal wetlands (Figure 2). The land was purchased by funds authorized through the Migratory Bird Conservation and Hunting Stamp Act (commonly called the Duck Stamp Act). A large portion of the new Refuge had been owned and operated as a duck hunting club for decades. Water levels were managed by a series of dikes that formed impoundments and the new Refuge retained these and other facilities. In fact, the current Refuge headquarters was a former hunting club's lodge.

Cedar Point National Wildlife Refuge was donated to the North American Wildlife Foundation by the Cedar Point Club, a hunt club that had owned Cedar Point Marsh since 1882. The Foundation turned the marsh over to the U.S. Fish and Wildlife Service in 1964.

West Sister Island National Wildlife Refuge is the oldest member of the Ottawa Complex and the most isolated. The 80 acre island became a national wildlife refuge in 1937, and in 1975 it was designated as a Federal wilderness area under the Wilderness Act of 1964. The Service manages 77 acres of the island and the U.S. Coast Guard owns the remaining acreage and an existing lighthouse. The island is home to the largest blue heron and great egret rookery in the U.S. Great Lakes and is also home to black crowned night herons and snowy egrets. The island is closed to public use.

Ottawa NWR Complex is managed to: protect, enhance, and restore habitat for threatened and endangered species; provide suitable habitat for nesting birds, migratory birds, and native resident flora and fauna; and to provide a place for people to enjoy wildlife-dependent recreation activities and learn about the complexities of the natural world through high-quality education and interpretive programming.

The Ottawa NWR Complex accommodates all six priority wildlife dependent recreational uses as identified in the Refuge Improvement Act of 1997; these include wildlife observation and photography, hunting, fishing, environmental education and

interpretation. A major feature of the Ottawa NWR Complex is the often spectacular opportunity for wildlife observation, especially bird watching. The Refuge complex has been listed in many "Top Ten" birding locations in the past few years. Approximately 120,000 visitors each year enjoy Ottawa's fish and wildlife resources and participate in the six wildlife dependent public uses. The economic benefit for local communities from birding ecotourism was estimated at $5.6 million in 1993-1994 (Kerlinger 1994). The Refuge is uniquely positioned to attract more visitors, as a daily average of 10,000 vehicles pass by on State Route 2 (Ohio Department of Transportation, 1997). In addition, Ottawa is less than a 1 hour drive from many school systems, including Toledo and its surrounding communities. Models show Ottawa NWR Complex should be able to reach 250,000 people a year through visitation, environmental education, and outreach opportunities. However, current facilities limit our ability to fulfill such a large capacity of people within a year. As previously mentioned the old hunt club lodge is the refuges current headquarters and houses the only indoor public use facility, a 25'x20' multipurpose room.

In 2000, Ottawa NWR Complex completed its CCP. It states that one of the objectives for providing quality public use opportunities is to make visitor contacts more effective. This will increase people's awareness of the Refuge, its programs, the Service, and the National Wildlife Refuge System. Visitors will know that the trails go through diverse habitats, have a general idea of the type of wildlife on the Refuge, and recognize the importance of undisturbed areas and management activities on the Refuge. One of the strategies identified to obtain this objective was to extend the trail system to pass through more diverse habitat areas and to increase interpretive stations to better inform the public. A second strategy was to construct a VEC. Representing Ohio's only lands within the National Wildlife Refuge System, the Ottawa NWR Complex is uniquely positioned to play a key role in environmental education for the region. A VEC would expose more people to the Service and the National Wildlife Refuge System and provide increased volumes of information through exhibits and interpretive opportunities. It would allow for field trips and programs, which are currently limited to only outdoor educational activities, to take place even during inclement weather by providing sufficient indoor facilities and space for activities. A VEC would also dramatically increase support by current partners and friends of the Refuge System.

To date, funding has been secured for the construction of the VEC, extension of hiking trails and additional kiosks. Complete funding for the inclusion of all staff offices in the facility has not yet been obtained. The benefit of offices in the VEC is that it allows for staff to be more accessible to the public. It would also decrease Refuge overhead costs by maintaining only one facility as opposed to two separate buildings.

2. Alternatives, Including the Proposed Action

This section addresses the proposed action and alternatives considered in meeting the purpose and need for the project. Alternatives eliminated from further consideration are also identified and summarized.

2.1. Alternatives not Considered for Detailed Analysis

2.1.1. Development on Cedar Point NWR

The development of a VEC at Cedar Point NWR was eliminated from further consideration because of the lack of suitable upland areas for location of the building, and because a deed restriction on the property prevents development of any buildings on the site.

2.1.2. Development on Ottawa NWR, Navarre Unit

The development of a VEC at Ottawa NWR, Navarre Unit was eliminated from further consideration because the land is held in fee title by Toledo Edison, although the refuge has wildlife and habitat management rights on the area.

2.1.3. Development on Ottawa NWR, Darby Unit

The development of a VEC at Ottawa NWR, Darby Unit was eliminated from further consideration because of the lack of suitable upland areas for location of the building, and absence of public use areas.

2.1.4. Development at the Current Refuge Office Site

The development of a VEC at the current refuge office site was eliminated from further consideration because of the limited amount of upland areas. Development at this site would require considerable wetland fill to provide a large enough area for the VEC, parking, and associated facilities. Demolition of the existing office would also be required, incurring substantial further costs to the Service for site preparation and temporary office space.

2.1.5. Development at Other Sites on Ottawa NWR

The development of a VEC at other sites on Ottawa NWR was eliminated from further consideration due to a combination of some or all of the following reasons: lack of suitable upland areas for location of the building, destruction and/or fragmentation of existing native habitats, need to fill an excessive amount of wetlands, lack of connection to existing public use areas, lack of connection to utilities or roads, and proximity to nests of Federally Threatened bald eagle.

2.1.6. Development at the Alternative A Site with a Second Entrance Road.

This alternative would build the VEC at the preferred site but create a second entrance road to serve the VEC. The second entrance road would eliminate the need for any fill of wetlands near State Route 2. This alternative was eliminated from further consideration because Ohio Department of Transportation would not allow the refuge to have 2 active entrances off of State Route 2, the lack of enough State Route 2 road frontage in this location to construct turn lanes to alleviate public safety concerns, and the lack of viable options for a road to connect back to existing public use and maintenance facilities without further wetland fill.

2.2. Alternatives Carried Forward for Detailed Analysis

2.2.1. Elements Common to All Alternatives

Public use and environmental education activities would continue at Ottawa NWR regardless of the decision made as a result of this Environmental Assessment.

2.2.2. Alternative A (Proposed Action)

The U.S. Fish and Wildlife Service's proposed action is to develop a VEC and associated facilities on a currently farmed area within Ottawa NWR (Figure 3). This site is preferred because it is currently under cultivation, so no wildlife habitat loss or wetlands fill would be required for the facility. The location is also desirable because it allows easy connection to existing public use areas. All associated infrastructure, including parking, sidewalks, geothermal heating, kiosks, and storm water wetlands would occur in the farm field. Areas around the VEC would be restored to native habitats, including prairie, wetlands, shrubs, and forest. Demonstration plantings of native plants are also planned. New walking trails and boardwalks spanning wetland areas would connect the VEC to the existing public use trail system. New electrical service, telephone service, and water would be brought in from the south off of State Route 2. Sewage will be handled on site with a new septic system. Storm water wetlands will handle surface water flow from parking lots. Another wetland, approximately 15' deep, will be constructed to handle geothermal heating and cooling.

The VEC would occupy approximately 12 acres of the site. The VEC, parking lots, and sidewalks will occupy about 4-5 acres of the site. There will be about 4 acres of storm water and geothermal wetlands around the VEC. The remainder will be grassed and landscaped areas.

The VEC will require closure of a portion of the Refuge to deer hunting. The amount of area closed will be determined at a future time. It is anticipated that a maximum of 70 acres would need to be closed, to provide safety zones around the VEC and new entrance road. Two goose hunting blinds near the site would be closed and relocated to other areas on the Refuge.

The current entrance road into the refuge would be realigned with Lickert-Harder Road to allow the Ohio Department of Transportation to construct turn lanes at a common intersection. This realignment is highly desirable due to public safety concerns of entering the refuge off of heavily used State Route 2. The new entrance road would have connections to the new VEC and to the present entrance road which serves a small trailhead parking lot and existing maintenance buildings. The current intersection of the existing entrance road and State Route 2 would be closed.

The entrance road alignment was selected to minimize the amount of wetland fill required; however a small amount of wetland fill is required to realign the entrance with Lickert-Harder Road. Construction of the entrance road would

require development of about 4 acres total, of which approximately 1 acre is wetland. The wetland loss will be mitigated off site on newly acquired lands. The Schneider tract is being restored from farmland to a mixture of emergent marsh and sedge meadow habitats. This restoration provides approximately 30 acres of mitigation for the wetlands lost due to the entrance road construction, for a ratio of 30:1.

2.2.3. Alternative B (No Action)

Under the no action alternative, no new VEC construction would occur. Public use and environmental education activities would continue at current levels. No new hiking trails, kiosks, or interpretive sites would be developed. Because the trail head would remain in the same location, no new trails would be feasible due to walking distances and trail connection problems. Habitat restoration activities and demonstration sites associated with the VEC would not take place at the current time. Demonstration sites would have no purpose without public view opportunities. There would be no wetland fill, no loss of hunting deer hunting area, and no realignment of the entrance road.

2.2.4. Alternative C (Eastern Alignment)

Many of the details of this alternative are similar to those in the preferred alternative. The VEC would be built in former farm land that is undergoing natural succession (Figure 3). Numerous inclusions of quality wetlands occur on this site. New electrical service, telephone service, and water would be brought in from the south off of State Route 2. Sewage will be handled on site with a new septic system. Storm water wetlands will handle surface water flow from parking lots. Another wetland, approximately 15' deep, will be constructed to handle geothermal heating and cooling.

Layout of the VEC site would be similar to the preferred alternative. Footprint size of the VEC and associated facilities would be the same as in the Preferred Alternative. The VEC would occupy approximately 12 acres of the site. The VEC, parking lots, and sidewalks will occupy about 4-5 acres of the site. There will be about 4 acres of storm water and geothermal wetlands around the VEC. The remainder will be grassed and landscaped areas. Approximately 5 acres of the 12 acre site is wetland habitats, the remainder is upland habitats.

An additional 5 acres of wetland shrub and wet meadow wetlands would be converted to lake level coastal wetlands. This would augment a habitat type that is very limited in the Lake Erie basin, and provide valuable environmental education opportunities.

The VEC will require closure of a portion of the Refuge to deer hunting. The amount of area closed will be determined at a future time. It is anticipated that a maximum of 50 acres would need to be closed, to provide safety zones around the VEC and new entrance road.

Habitats around the VEC would be restored or enhanced as necessary to native habitats, including prairie, wetlands, shrubs, and forest. Demonstration plantings of native plants are also planned. New walking trails and boardwalks spanning the lake level coastal wetland would connect the VEC to the existing public use trail system, but with a more eastern alignment as compared to the preferred alternative.

The entrance road would be shorter than under the preferred alternative, but more wetland fill would be involved. Realignment of the existing entrance road and construction of turn lanes would occur as in the preferred alternative. Construction of the entrance road for this alternative would require development of about 2 acres total, all of which is wetland habitat. Development of the VEC site requires fill of about 5 acres, for a total project impact of 7 wetland acres. The wetland loss will be mitigated off site on newly acquired lands. The Schneider tract is being restored from farmland to a mixture of emergent marsh and sedge meadow habitats. This restoration provides approximately 30 acres of mitigation for the wetlands lost due to the VEC and entrance road construction, for a ratio of 4.28:1.

2.3. Summary of Alternate Actions Table

Actions	Alternative A (Proposed Action)	Alternative B (No Action)	Alternative C (Eastern Alignment)
Building Construction	Yes	None	Yes
# Acres developed for VEC	12	None	12
# Acres developed for entrance road	4	None	2
# Acres wetland filled	1	None	7
Wetland mitigation ratio	30:1	NA	4.28:1
Access to established roads	No, new entrance road required	Yes	No, new entrance road required
Utilities present	No	Yes, electric only	No
Upland habitat	Yes, farm land for Center, partially for road	Partially	Partially
Public Safety	Improved, entrance road realignment with SR 2 turn lanes	No change	Improved, entrance road realignment with SR 2 turn lanes
New offices and storage	Yes, as funds become available	No	Yes, as funds become available

3. Affected Environment

3.1. Physical Characteristics

Ottawa NWR consists of flat land that was part of the Great Black Swamp prior to settlement. Soils are predominately Toledo series and Nappanee series. Toledo series consists of deep, very poorly drained glacial silty clay soils. They are subject to short duration ponding during wet seasons. Nappanee series are silty clay loam that is deep, somewhat poorly drained glacial till soil. Elevations at the proposed sites range from 574-576 feet MSL. The project sites are not mapped within 100 year or 500 year Federal Emergency Management Agency (FEMA) flood zones due to the extensive dike system found in the area. However, seiche events from Lake Erie can exceed 578' during years when lake levels are above average. Because the site elevations are below this level, it is deemed desirable to raise the VEC elevation above potential seiche flood levels in the event of a dike breech. Thus the sites will require considerable fill to alleviate flooding concerns. The proposed entrance road elevation is 578 feet, and the proposed VEC elevation is 581 feet.

3.2. Floodplain Management

Executive Order 11988 Floodplain Management (May 1977) requires federal agencies "to avoid direct or indirect support of floodplain development wherever there is a practicable alternative". Floodplain for the purposes of Executive Order 11988 are defined as "that area subject to a one percent or greater chance of flooding in any given year", or the 100 year floodplain as determined by FEMA. Because FEMA has mapped the proposed VEC areas as Flood Zone C, or outside of the 100 and 500 year flood zones, Executive Order 11988 does not apply to any of the proposed alternatives in this EA.

3.3. Biological Environment

3.3.1. Habitat/Vegetation

Current habitat at the proposed building sites consists of farm fields on the west side of the area. The east side of the area is old agricultural fields, containing grasses, exotic plants, small shrubs, and scattered young trees. Inclusions of seasonally wet sedge meadows are present in depressions.

3.3.2. Listed, Proposed, and Candidate Species

The bald eagle is the only listed species present on the Refuge. Although there are 3 eagle nests on Ottawa, there are none in the vicinity of the proposed VEC site locations. Eagles do not use the area around the proposed sites. The status of Indiana bats in the project area is unknown; however, no suitable roost trees are present in the project area. No endangered species critical habitats occur on the refuge.

3.3.3. Other Wildlife Species

Habitats at the proposed sites are used primarily by a variety of songbirds, small mammals, snakes, and white-tailed deer. Old agricultural fields are used by nesting songbirds such as field sparrow, song sparrow, and eastern meadowlark. Shrub habitats are very important to migratory songbirds in spring and fall. Shrub areas during migration often contain dramatic concentrations of migratory songbirds due to the natural barrier of Lake Erie. Very little wildlife use occurs in the currently farmed areas.

3.4. Land Use

Ottawa NWR includes 4766 acres on the southern shore of Lake Erie. To the east is the Ohio Division of Wildlife, Magee Marsh Wildlife Area. To the south and west is a rural agricultural landscape.

3.5. Cultural/Paleontological Resources

No cultural or paleontological resources are known for the proposed project sites. In 1998, Midwest Environmental Consultants conducted a Cultural Resources Overview for the Ottawa NWR Complex. In 2003, American Archeological Service completed a Phase I Inventory and Archaeological Survey for a portion of the proposed project sites. Portions of the Alternative A site in existing farm fields were not included in this survey. However, because the site was disturbed by farming for decades, no cultural or paleontological resources are anticipated for this location. All of the Alternative C site location was surveyed. The Phase 1 survey included soil pit tests within the proposed project areas. No cultural resources were discovered during the survey.

3.6. Local Socio-economic Conditions

The proposed VEC site is located within Ottawa County, Ohio. Ottawa County comprises 255 square miles, with a population of 40,985. Agriculture and open urban spaces account for 73 % of the land cover in the County. Median household income is $44,224.

4. Environmental Consequences

4.1. Alternative A (Proposed Action)

4.1.1. Habitat Impacts

Habitat impacts would be minimized under this alternative. Current habitat at the site consists of agricultural farm fields, and old agricultural fields containing a mixture of grasses, exotic plants, and small shrubs. Location of the VEC and infrastructure would be placed in upland habitat and in existing farm fields. The entrance road alignment will be designed to minimize the amount of wetland fill. Wetland impacts would be restricted to approximately a 1 acre area at the intersection of the new entrance road with State Route 2. The wetland loss will be mitigated off site on newly acquired lands. The Schneider tract is being restored from farmland to a mixture of emergent marsh and sedge meadow habitats. This

restoration provides approximately 30 acres of mitigation for the wetlands lost due to the entrance road construction, for a ratio of 30:1.

Storm water and geothermal wetlands will be excavated around the VEC and entrance road areas. The area around the immediate vicinity of the VEC will be grass in areas used for outdoor and environmental education programs, and will incorporate demonstration plots of a variety of native plants. Native trees and shrubs will be planted through out the site to create a visually appealing landscape, provide wind and thermal protection, and to create additional visual and sound barriers from State Route 2. Habitat in outlying areas will be restored to a mixture of shrubs, forest, and wetlands, likely including sedge meadows and small wetlands.

4.1.2. Biological Impacts

Biological impacts will be minimized under this alternative. The VEC and associated infrastructure will be placed in existing agricultural fields. The farm fields around the site will be restored to a mixture of shrubs, trees, grassland, wet meadows and shallow wetlands, resulting in a net increase in habitat available for wildlife use. Alignment of the entrance road will also minimize disturbance of habitat used by wildlife. Wet meadow habitats on the eastern side of the project area will be largely undisturbed, retaining water quality and habitat values. Some minor displacement of mammals, reptiles, and nesting songbirds will occur. These will be more than offset in the long term by the restoration of existing farmland and areas containing exotic species.

4.1.3. Listed, Proposed, and Candidate Species

Consultation with the Service's Reynoldsburg Field Office indicates that no listed species occur in the project area and therefore no listed species will be affected under this alternative as indicated on the attached Intra-Service Section 7 consultation form.

4.1.4. Cultural Resources

No cultural or paleontological resources are known for the proposed project sites. In 1998, Midwest Environmental Consultants conducted a Cultural Resources Overview for the Ottawa NWR Complex. In 2003, American Archeological Service completed a Phase I Inventory and Archaeological Survey for a portion of the proposed project sites. Portions of the Alternative A site in existing farm fields were not included in this survey. However, because the site was disturbed by farming for decades, no cultural or paleontological resources are anticipated for this location. The Phase 1 survey included soil pit tests within the proposed project areas. No cultural resources were discovered during the survey.

4.1.5. Public Use

Current outreach and education opportunities are extremely limited at the current office. There is no classroom space for environmental education, and interpretive space is limited to a few display racks of brochures. Construction of a VEC is the

most important strategy identified to meet the People Goals and Objectives identified in the Ottawa NWR Complex Comprehensive Conservation Plan (CCP). The VEC was also ranked as the number 1 priority in the Refuge Operations Needs (RONS) ranking developed for the CCP. The new VEC includes an exhibit room, a book store, object theater room, a large multipurpose classroom and meeting room, observation tower, and office space. New walking trails, kiosks, and observation platforms will greatly enhance wildlife viewing and education opportunities. Public use is expected to double to approximately 250,000 visitors annually. Public use trails under this alternative would have a western connection to the current trail system.

4.1.6. Refuge Operations

New office space is planned in conjunction with the new VEC, although funds have not yet been allocated for construction. Current plans include unfinished second story offices that will be completed as funds become available. The current refuge office is located in an old waterfowl hunt club building that has very limited office and storage space. Some records and equipment are currently stored off site in an old farm house due to lack of adequate facilities. Under this alternative, office space and storage needs would be greatly improved once funds become available.

Refuge personnel would be responsible for the construction of storm water wetlands and the entrance road, as no funds are available to contract the work. The length of the new entrance road would be longer under this alternative as compared to Alternative C. There will be a substantial maintenance staff time cost incurred as a result of the construction, resulting in postponing of other routine maintenance needs.

4.1.7. Environmental Justice

This alternative would have positive impacts on low-income or minority populations. The VEC will provide additional free outdoor wildlife viewing opportunities and improved environmental education facilities. These resources are within short driving distance of low-income and minority populations of Ottawa and Lucas Counties.

4.1.8. Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to listed, proposed, or candidate species due to activities associated with this alternative or similar action by the Service or other agencies.

Overall, planned construction under this alternative would result in the loss of 1 acre of wetlands and 3 acres of upland habitat, which would be offset by planned wetland and upland restorations associated with the VEC. If the Service or other agencies completed other projects that continued to incrementally reduce the overall amount of wetland and shrub habitats, the cumulative impacts would be a minor loss of existing wetland and upland habitats. This minor loss of habitat

would be offset by a moderate net increase in restored wetland and upland habitats.

Public use, the amount of public use facilities, and environmental education resources and opportunities would all increase substantially under this alternative. Other related environmental facilities in the region include Maumee Bay State Park and Magee Marsh Sportsman Migratory Bird Center. The Lake Erie Welcome Center in Port Clinton, Ohio was recently constructed. While these facilities offer public interpretation displays, none of them include environmental education classrooms. No other known similar facilities are planned in the region. Future Visitor or Education facilities by other agencies would have cumulative positive effects on the region, for public education, recreation, and wildlife viewing, as well as for the local economy by increasing regional visitation.

4.2. Alternative B (No Action)

4.2.1. Habitat Impacts

No new development would occur. There would be no impacts to existing habitats from construction activities. Habitat restoration projects associated with the VEC would not take place.

4.2.2. Biological Impacts

No impact to wildlife would occur due to construction or restoration activities. Proposed habitat restoration areas would remain in their current condition. Net overall value for wildlife would be less under this alternative because planned habitat restoration would not occur.

4.2.3. Listed, Proposed, and Candidate Species

There would be no effect to listed species since no new facilities would be constructed.

4.2.4. Cultural Resources

No cultural resources would be affected under this alternative.

4.2.5. Public Use

Public use would continue at current levels. No additional trails, observation platforms, kiosks, interpretive panels, or environmental education opportunities would be created. Current facilities are inadequate to expand public use and environmental education activities. This alternative will not allow the Service to fulfill the People Goals, Objectives, and Strategies identified in the Ottawa National Wildlife Refuge Comprehensive Conservation Plan. There would be no realignment of the entrance road to address public safety concerns.

4.2.6. Refuge Operations

New office space associated with the VEC would not be built. Refuge staff and storage space limitations in the existing office are currently a concern, and the

problem of limited facilities would continue to increase as the Refuge expands in size through land acquisitions. Some records and equipment are currently stored off site in an old farm house due to lack of adequate facilities.

No maintenance staff time would be incurred as a result of construction of storm water wetlands and the new entrance road.

4.2.7. Environmental Justice

This alternative would have no impact on low-income or minority populations.

4.2.8. Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to listed, proposed, or candidate species due to activities associated with this alternative or similar action by the Service or other agencies.

No wetlands or other habitats would be lost or converted under this alternative. Planned habitat restoration activities associated with the VEC would not occur. If the Service or other agencies continued in the future in a similar manner, the cumulative effect would be a status quo with existing wildlife and habitat conditions.

There would be long term negative cumulative impacts to public use, the amount of public use facilities, and environmental education resources and opportunities due to activities associated with this alternative or similar action by the Service or other agencies. As society becomes more urbanized and less familiar with the natural world, it becomes increasing important to educate the public about natural resources and their benefits to society, as well as the increasing stresses these resources face from factors ranging from global warming to invasion by exotic species.

4.3. Alternative C (VEC, Eastern Alignment)

4.3.1. Habitat Impacts

Habitat impacts would be greatest under this alternative. Current habitat at the site consists of abandoned agricultural fields, containing exotic plants, small shrubs, scattered young trees, and seasonally wet areas that contain a variety of sedges. Location of the VEC, parking lots, and roads was selected to minimize impacts to wetlands. However, approximately 7 acres of wetlands would be impacted by construction activity and fill. This would be offset by additional wetlands that would be restored and enhanced both on and off site. Storm water wetlands would be excavated around the VEC and entrance road areas. An additional 5 acres of shrub and wet meadow wetlands would be converted to lake level coastal wetlands. Construction of lake level coastal wetlands would augment one of the most limited habitats in the region, and provide valuable public education opportunities. Restoration of surrounding habitats around the VEC would be similar to Alternative A.

Under this alternative, filling approximately 7 acres of Category 2 (good quality) wetlands as defined by the Ohio Rapid Assessment Method (ORAM) would be required. ORAM scores rate these wetlands as high quality areas due to the quality of the habitat, the undeveloped nature of the area, the large size of the wetland complex, and the proximity to Lake Erie. The wetland loss will be mitigated off site on newly acquired lands. The Schneider tract is being restored from farmland to a mixture of emergent marsh and sedge meadow habitats. This restoration provides approximately 30 acres of mitigation for the wetlands lost due to the VEC and entrance road construction, for a ratio of 4.28:1.

4.3.2. Biological Impacts

Biological impacts would be greatest under this alternative. Habitats at the proposed sites are used primarily by a variety of songbirds, small mammals, snakes, and white-tailed deer. Nesting songbirds such as field sparrow, song sparrow, and eastern meadowlark use the site. Construction would disturb and/or displace songbirds and mammals that use the site. Shrub habitats present at the site provide critical cover and foraging substrates for migratory songbirds in spring and fall. Shrub areas during migration often contain dramatic concentrations of migratory songbirds due to the natural barrier of Lake Erie. Impacts to wildlife would be offset in the long term by planned habitat enhancement at the site.

4.3.3. Listed, Proposed, and Candidate Species

Consultation with the Service's Reynoldsburg Field Office indicates that no listed species occur in the project area and therefore no listed species will be affected under this alternative as indicated on the attached Intra-Service Section 7 consultation form.

4.3.4. Cultural Resources

No cultural or paleontological resources are known for the proposed project sites. In 1998, Midwest Environmental Consultants conducted a Cultural Resources Overview for the Ottawa NWR Complex. In 2003, American Archeological Service completed a Phase I Inventory and Archaeological Survey for the proposed project sites. The Phase 1 survey included soil pit test within the proposed project area. No cultural resources were discovered during the survey.

4.3.5. Public Use

Public use under this alternative would be very similar to that of the preferred alternative. Differences occur mostly in the placement of walking trails, kiosks, and observation platforms. New public use trails under this alternative would have an eastern connection to the current trail system. The trail would also include a floating boardwalk across the lake level wetland with kiosks explaining the importance of coastal lake-influenced wetlands.

4.3.6. Refuge Operations

Office and storage space considerations under this alternative are identical to those in Alternative A.

Refuge personnel would be responsible for the construction of storm water wetlands and the entrance road, as no funds are available to contract the work. The length of the new entrance road would be shorter in this alternative as compared to the preferred alternative, resulting in less of a burden on maintenance staff. Some routine maintenance needs would be postponed.

4.3.7. Environmental Justice

This alternative would have positive impacts on low-income or minority populations. The VEC will provide additional free outdoor wildlife viewing opportunities and improved environmental education facilities. These resources are within short driving distance of low-income and minority populations of Ottawa and Lucas Counties.

4.3.8. Cumulative Impacts

No long term cumulative impacts would occur to cultural resources or to listed, proposed, or candidate species due to activities associated with this alternative or similar action by the Service or other agencies.

Overall, planned construction under this alternative would result in a loss of 20 acres of habitat, including 10 acres of wetland loss, 5 acres of shrub and sedge meadow wetlands conversion to lake level coastal wetlands, and 5 acres of mixed upland loss. If the Service or other agencies completed future projects that continued to incrementally reduce the overall amount of wetland and shrub habitats, the cumulative impacts could be serious. The majority of historical wetlands in the region have been lost to development and by draining and conversion to farm land. Shrub habitats, critically important to songbirds during migration, have also been greatly reduced from historic levels. Both shrub and wetland losses would be offset by planned habitat restoration activities associated with the VEC. Conversion of other wetland types to lake level coastal wetlands would have long term beneficial effects for coastal wetlands if other agencies completed similar actions. Lake connected wetlands are the most severely reduced wetland type in this region, and have important fish and wildlife values.

The effect on Public use, the amount of public use facilities, and environmental education resources and opportunities would be the same as the preferred alternative under this alternative.

4.4. Summary of Environmental Consequences by Alternative

Actions	Alternative A (Proposed Action)	Alternative B (No Action)	Alternative C (Eastern Alignment)
Impact on cultural resources	None	None	None
Habitat lost to visitor center construction	Agriculture	None	Old field, shrub habitats, wetland
Wetlands fill	Minimal, road only, about 1 acre	None	Moderate, Visitor center and road, approximately 7 acres
Habitat restoration	Yes, prairie, shrub, wetlands	None	Yes, prairie, shrub, wetlands, coastal wetlands
Flood potential	Elevations below potential Lake Erie extreme seiche events, fill required	Elevations below potential Lake Erie extreme seiche events	Elevations below potential Lake Erie extreme seiche events, fill required
Impact on wildlife	Minimal, 2 acre habitat loss	None	Moderate, 14 acre habitat loss
Public use	250,000 annually	125,000 annually	250,000 annually
Increased public use facilities and interpretation	Yes	No	Yes
Public Safety	Improved, entrance road realignment with SR 2 turn lanes	No change	Improved, entrance road realignment with SR 2 turn lanes

5. List of Preparers

The following individuals cooperated in the preparation of this document:

Team Leader: Ron Huffman, Wildlife Biologist, USFWS, Ottawa NWR, Oak Harbor, OH – author, research, data collection, editing, and etc.

Consultant: Jeff Gosse, Regional Environmental Coordinator, USFWS, Ecological Services Region 3 Regional Office, Fort Snelling, Minnesota – Gave author guidance in FWS procedures for preparation of NEPA documents, editing, revision, coordination information.

Consultant: John Dobrovolny, Regional Historic Preservation Officer, USFWS, Visitor Services and Outreach, Region 3 Regional Office, Fort Snelling, Minnesota – Gave author guidance in FWS cultural resources procedures, editing, revision,.

Team Member: Dan Frisk, Refuge Manager, USFWS, Ottawa NWR, Oak Harbor, OH – Project Manager, editing, revision, and etc.

Team Member: Sara Mason, Refuge Operations Specialist, USFWS, Ottawa NWR, Oak Harbor, OH – coauthor, research, data collection, editing and etc.

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Contributor: Steve Dushane, Private Lands Biologist, USFWS, Ottawa NWR, Oak Harbor, OH, - editing and revision

Contributor: Doug Brewer, Refuge Operations Specialist, USFWS, Ottawa NWR, Oak Harbor, OH, - editing and revision

Contributor: Megan Seymour, Biologist, USFWS, Ecological Services, Reynoldsburg, OH - Section 7 consultation.

6. Consultation and Coordination with the Public and Others

The following consultation and coordination efforts were conducted during the preparation of this Environmental Assessment:

The refuge hosted meetings and field visits with the U.S. Army Corps of Engineers (ACOE), Buffalo District; Ohio Environmental Protection Agency (OEPA), Division of Surface Water; and Ohio Department of Natural Resources (ODNR) staff to discuss ACOE Section 404 permit and OEPA Section 401 Water Quality Certification for wetlands impacts associated with the building site.

Meetings were held with ODNR, Division of Wildlife to discuss expected public uses and coordinate activities with Magee Marsh Wildlife Area.

Meetings were held with Ohio Department of Transportation and Ottawa County Commissioners to address public safety issues on entering the refuge from heavily traveled State Route 2. These meetings resulted in the proposed entrance road realignment with township road Lickert-Harder and future installation of turn lanes at the intersection of State Route 2 and Lickert-Harder.

7. Public Comment and Response

This chapter will be completed following the public comment period.

8. References Cited

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